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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/068,377	05/08/1998	LAURENCE A. LASKY	P1066P2	2255

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EXAMINER	
RAWLINGS, STEPHEN L	
ART UNIT	PAPER NUMBER
1642	39

DATE MAILED: 09/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/068,377	LASKY ET AL.	
	Examiner	Art Unit	
	Stephen L. Rawlings, Ph.D.	1642	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 June 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *16-18 and 24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *16-18 and 24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☒ Other: *Notice to Comply* .

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicants' submission filed on June 26, 2002 (Paper No. 38) has been entered.

2. The amendment filed on June 26, 2003 in Paper No. 37 is acknowledged and has been entered. Claims 1-14 and 19-21 have been canceled. Claim 24 has been amended.

3. Claims 16-18 and 24 are pending in the application and are currently under prosecution.

Grounds of Objection and Rejection Withdrawn

4. Unless specifically reiterated below, the grounds of objection and rejection set forth in the previous Office action mailed August 27, 2002 (Paper No. 33) have been withdrawn.

Priority

5. Applicants have claimed the benefit of the earlier filing date of PCT/US98/01774 filed January 30, 1998, which was given benefit of the earlier filing date of US Application No. 08/938,830 filed September 29, 1997, which was given benefit of the earlier filing date of US Provisional Application No. 60/104,589 filed February 7, 1997. However, because the specifications of these documents to which Applicants have claimed benefit do not disclose a proper and sufficient antecedence to support the limitation presently recited in claim 24, which requires the antibody to bind the polypeptide at a site not including a phosphorylated tyrosine of the polypeptide, Applicants have not been given the claimed benefit. Accordingly, the earliest effective filing date of this application is deemed May 8, 1998.

Lack of Compliance under 37 CFR §§ 1.821-1.825

6. This application contains sequence disclosures that are encompassed by the definitions for nucleotide and/or amino acid sequences set forth in 37 C.F.R. § 1.821(a)(1) and (a)(2). However, this application fails to comply with the requirements of 37 C.F.R. §§ 1.821-1.825 for the reason(s) set forth on the attached Notice To Comply With Requirements For Patent Applications Containing Nucleotide Sequence And/Or Amino Acid Sequence Disclosures. Applicant must comply with the requirements of the sequence rules (37 CFR 1.821 - 1.825) before the application can be examined under 35 U.S.C. §§ 131 and 132.

As noted on the attached Notice to Comply, Figure 13 discloses amino acid sequences, which are not identified either in the figure or in the corresponding legend by a sequence identification number corresponding to the same sequences set forth in the sequence listing. If these sequences are included in the present sequence listing, Applicants should amend the specification or replace the figure so that the sequences disclosed in the figures are properly identified. If the sequences are not included in the present sequence listing, Applicants should also submit substitute paper and computer-readable format (CRF) copies of the sequence listing and a statement that both copies are the same and include no new matter.

Applicants are given the same period of time within which to reply to this Office action to place this application in compliance with 37 C.F.R. §§ 1.821-1.825. Failure to comply with these requirements will result in ABANDONMENT of the application under 37 C.F.R. § 1.821(g).

Applicants are requested to return a copy of the attached Notice to Comply with the response.

Specification

7. The specification is objected to because the use of numerous improperly demarcated trademarks has been noted in this application. Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner that might adversely affect their validity as trademarks.

See MPEP § 608.01(v).

Examples of improperly demarcated trademarks include Sigma™ (page 18), Invitrogen™ (page 18), Novagen™ (page 18), American Type Culture Collection™ (page 30), Pharmacia™ (page 36), Promega™ (page 36), TnT™ (page 36), Genentech™ (page 37), Ultralink™ (page 37), Novex™ (page 38), Vectashield™ (page 38), Molecular Dynamics™ (page 45), ImageSpace™ (page 45), BIO-RAD (page 46), and Qiagen™ (page 59).

Appropriate correction is required. Each letter of a trademark should be capitalized or otherwise the trademark should be demarcated with the appropriate symbol indicating its proprietary nature (e.g., ™, ®), and accompanied by generic terminology. Applicants may identify trademarks using the "Trademark" search engine under "USPTO Search Collections" on the Internet at http://www.uspto.gov/web/menu/search.html.

Claim Rejections – 35 USC § 112

8. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

9. Claims 16-18 and 24 are rejected under 35 USC § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, has possession of the claimed invention for the reason set forth in section 9 of the Office action mailed August 27, 2002 (Paper No. 33).

Claim 16 recites, "at a site not including a phosphorylated tyrosine of said polypeptide". However, there does not appear to a proper and sufficient antecedent basis in the originally filed specification to support the recitation of this limitation in the present claims.

Applicants have traversed this ground of rejection arguing that because the specification discloses an antibody that binds PSTPIP and also an antibody that binds phosphotyrosine, Applicants should be entitled to expressly exclude an antibody that binds PSTPIP at a site that

includes a phosphotyrosine residue.

Applicants arguments have been carefully considered but not found persuasive for the following reasons:

Because claim 24 recites "[a]n antibody that binds the [...] polypeptide of SEQ ID NO: 1 at a site not including a phosphorylated tyrosine", it appears that the claim is directed to a subgenus of antibodies, which was not described by the original disclosure of the genus of antibodies that bind a PSTPIP polypeptide comprising the amino acid sequence of SEQ ID NO: 1. Applicants are reminded that it cannot be said that a subgenus is necessarily described by a genus encompassing it and a species upon which it reads. See *In re Smith*, 173 USPQ 679, 683 (CCPA 1972).

Furthermore, for this reason, it appears that the phrase "at a site not including a phosphorylated tyrosine" is a negative limitation since it is intended to exclude anti-phosphotyrosine antibodies that bind the polypeptide of SEQ ID NO: 1. Once again, adding the expressed exclusion of certain elements implies permissible inclusion of all other elements not so expressly excluded. This clearly illustrates that such negative limitations, in fact, introduce new concepts. See *Ex parte Grasselli*, 231 USPQ 393 (BPAI 1983).

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

11. Claim 24 is rejected under 35 U.S.C. 102(a) as being anticipated by Spencer et al. (*J. Cell. Biol.* 1997 August 25; **138** (4): 845-860), as evidenced by Becker et al. (*FEBS Lett.* 1998; **441** (1): 141-147).

Spencer et al. teach an anti-PSTPIP polyclonal antibody. Although Spencer et al. does not teach that the polyclonal antibody binds the polypeptide at a site not including a phosphorylated tyrosine of the polypeptide, the antibody of the prior art is deemed the same as

the claimed antibody, absent a showing of any difference, because Spencer et al. discloses that the polyclonal antibody was produced against a PSTPIP-GST fusion protein, which was recombinantly produced in a strain of *E. coli*, namely DH5-α. A recombinant protein produced in *E. coli* is *not* expected to comprise a phosphorylated tyrosine residue; therefore, the PSTPIP-GST fusion protein, when used as an immunogen produces an antibody that binds the polypeptide at a site not including a phosphorylated tyrosine.

Recombinant proteins expressed in *E. coli* often amass as insoluble, occlusion bodies; such insoluble proteins are not expected to accessible to a protein that might be capable of phosphorylating the tyrosine residues of the proteins. Nevertheless, tyrosine phosphorylation of proteins is generally a highly selective process; i.e., tyrosine kinases phosphorylate the tyrosine residues of a substrate protein in a specific manner. Becker et al. teach that to produce a recombinant protein in *E. coli*, which is tyrosine phosphorylated, it is necessary to produce a soluble recombinant protein and to co-produce a tyrosine kinase, which is able to tyrosine phosphorylated the recombinant protein.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

13. Claims 16-18 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Spencer et al. (*J. Cell. Biol.* 1997 August 25; **138** (4): 845-860) in view of Ackerman (*Human Cell* **1**: 46-53, 1988) and Nakamura et al. (*Cell Struct. Funct.* 1984 June; **9** (2): 167-169).

Spencer et al. teach an isolated polypeptide, namely PSTPIP, which has an amino acid sequence that is identical to the amino acid sequence set forth as SEQ ID NO: 1. Spencer et al. disclose that PSTPIP is homologous to CDC15p, a phosphorylated protein, and was isolated on the basis of an interaction with a tyrosine phosphatase. Spencer et al. teach that the tyrosine

residues of PSTPIP are conserved among other related proteins, including CDC15p. Additionally, Spencer et al. teach a polyclonal antibody that selectively and specifically binds PSTPIP. Spencer et al. teach that the antibody can be used to selectively immunoprecipitate PSTPIP and that an anti-phosphotyrosine antibody can then be used to detect immunoprecipitated PSTPIP, which is tyrosine-phosphorylated, to characterize the conditions, or stages of development under or in which the polypeptide is tyrosine-phosphorylated *in vivo*. Spencer et al. disclose that phosphorylation of tyrosine residues of PSTPIP regulate its function. Spencer et al. teach that PSTPIP can be located within a cell by indirect immunofluorescent microscopy.

Spencer et al. do not disclose a *monoclonal* antibody that binds PSTPIP at a site of the polypeptide not including a phosphorylated tyrosine; nor do Spencer et al. teach a hybridoma cell line that produces such a monoclonal antibody. Furthermore, Spencer et al. do not teach a *detectably labeled* antibody that binds PSTPIP at a site of the polypeptide not including a phosphorylated tyrosine.

Ackerman teaches that the hybridoma technology developed by Kohler and Milstein facilitated a revolution in biotechnology during which the possibility of generating monoclonal antibodies that specifically bind an antigen became routine in laboratories throughout the world. Because of the constant quality of the monoclonal antibody and the other numerous advantages that use of the monoclonal antibody provides, Ackerman teaches that monoclonal antibodies are used widely in many different applications, and also finding use in many new and expansive applications.

Nakamura et al. teach the utility of a monoclonal antibody in characterizing the expression of the polypeptide to which the antibody selectively and specifically binds. In particular, Nakamura et al. teach that a labeled antibody can be used to locate the polypeptide within a cell by direct immunofluorescent microscopy to characterize the expression and function of the polypeptide *in vivo*. Furthermore, Nakamura et al. teach a monoclonal antibody can be to quantify and purify the polypeptide to which the antibody binds.

It would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to have produced a hybridoma cell line producing a monoclonal antibody that binds to PSTPIP at a site of the polypeptide not including a phosphorylated tyrosine, because

Spencer et al. teach an antibody that binds PSTPIP at a site of the polypeptide not including a phosphorylated tyrosine, which Spencer et al. teach can be used to selectively characterize the *in vivo* phosphorylation of PSTPIP, as PSTPIP is homologous to other tyrosine-phosphorylated proteins, because Ackerman teaches that generating monoclonal antibodies that specifically bind an antigen is routine and that monoclonal antibodies provides numerous advantages, including constant quality, and because Nakamura et al. teach that a monoclonal antibody has more than one utility, including the detection, quantification, and localization of the protein to which the antibody binds. One of ordinary skill in the art would have been motivated to produce a monoclonal antibody that binds to PSTPIP at a site of the polypeptide not including a phosphorylated tyrosine to use the antibody as a reagent in selectively characterizing the *in vivo* phosphorylation of PSTPIP, according to the disclosure of Spencer et al., in order to further characterize the expression and function of PSTPIP, or in purifying PSTPIP, according to the disclosure of Nakamura et al., or in localizing PSTPIP within a cell using direct immunofluorescent microscopy, according to the disclosures of Spencer et al. and Nakamura et al.

Accordingly, it would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to have produced a detectably labeled antibody that binds to PSTPIP at a site of the polypeptide not including a phosphorylated tyrosine, because Spencer et al. teach that an antibody that binds PSTPIP at a site of the polypeptide not including a phosphorylated tyrosine selectively binds PSTPIP and because Nakamura et al. teach that a detectably labeled antibody that selectively binds a protein can be used to localize the protein by direct immunofluorescent microscopy. One of ordinary skill in the art would have been motivated to produce a detectably labeled antibody that binds to PSTPIP at a site of the polypeptide not including a phosphorylated tyrosine to use the antibody as a reagent in directly detecting and localizing PSTPIP in a cell, or a sample thereof, in order to further characterize the expression and function of PSTPIP.

14. Claims 16-18 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Database SPTREMBL 23 Accession No. P978144 (01 May 1997) in view of Ackerman (*Human Cell* 1: 46-53, 1988) and Nakamura et al. (*Cell Struct. Funct.* 1984 June; **9** (2): 167-169).

Database SPTREMBL 23 Accession No. P978144 discloses the amino acid sequence of an isolated polypeptide, which is 100% identical to the amino acid sequence of PSTPIP, set forth as SEQ ID NO: 1. The amino acid sequence set forth as SEQ ID NO: 1 does not include a phosphotyrosine residue.

Ackerman teaches that the hybridoma technology developed by Kohler and Milstein facilitated a revolution in biotechnology during which the possibility of generating monoclonal antibodies that specifically bind an antigen became routine in laboratories throughout the world. Because of the constant quality of the monoclonal antibody and the other numerous advantages that use of the monoclonal antibody provides, Ackerman teaches that monoclonal antibodies are used widely in many different applications, and also finding use in many new and expansive applications.

Nakamura et al. teach the utility of a monoclonal antibody in characterizing the expression of the polypeptide to which the antibody selectively and specifically binds. In particular, Nakamura et al. teach that a labeled antibody can be used to locate the polypeptide within a cell by direct immunofluorescent microscopy to characterize the expression and function of the polypeptide *in vivo*. Furthermore, Nakamura et al. teach a monoclonal antibody can be to quantify and purify the polypeptide to which the antibody binds.

It would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to have produced a hybridoma cell line producing a monoclonal antibody that binds to PSTPIP at a site of the polypeptide not including a phosphorylated tyrosine, because Ackerman teaches that generating monoclonal antibodies that specifically bind an antigen is routine and that monoclonal antibodies provides numerous advantages, including constant quality, and Database SPTREMBL 23 Accession No. P978144 discloses the amino acid sequence of an isolated polypeptide, which is 100% identical to the amino acid sequence set forth as SEQ ID NO: 1 and which also does not include a phosphotyrosine residue, and because Nakamura et al. teach that a monoclonal antibody has more than one utility, including the detection, quantification, and localization of the protein to which the antibody binds. One of ordinary skill in the art would have been had a reasonable expectation of successfully producing a monoclonal antibody that binds to PSTPIP at a site of the polypeptide not including a phosphorylated tyrosine because the amino acid sequence of the polypeptide disclosed by

Database SPTREMBL 23 Accession No. P978144 does not include a phosphotyrosine so an antibody produced using the disclosed polypeptide as an immunogen would not have been expected to bind the polypeptide at a site including a phosphotyrosine residue.

Furthermore, the Board of Patent Appeals and Interferences has taken the position that once an antigen has been isolated, the manufacture of monoclonal antibodies against it is *prima facie* obvious. See *Ex parte Ehrlich*, 3 USPQ 2d 1011 (PTO BPAI, 1987) and *Ex parte Sugimoto*, 14 USPQ 2d 1312 (PTO BPAI, 1990). The amino acid sequence set forth as SEQ ID NO: 1 does not contain a phosphotyrosine residue. Therefore, given the disclosure of a polypeptide having the same amino acid sequence as that which is set forth as SEQ ID NO: 1, it would have been *prima facie* obvious to manufacture a hybridoma producing a monoclonal antibody against the polypeptide of SEQ ID NO: 1, or PSTPIP.

One of ordinary skill in the art would have been motivated to manufacture, using this disclosed antigen as an immunogen, a hybridoma producing a monoclonal antibody that binds the disclosed antigen because the Nakamura et al. teach, for example, that a detectably labeled monoclonal antibody can be used to intracellularly localize the protein to which the antibody binds. One of ordinary skill in the art would have been motivated to manufacture the hybridoma and a detectably labeled antibody produced by the hybridoma in order to localize PSTPIP within a cell by direct immunofluorescent microscopy and characterize of its expression and function *in vivo*.

Conclusion

15. No claims are allowed.

16. The art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patent Nos. 6,040,437-A and 6,111,073-A teach PSTPIP and a nucleic acid molecule encoding PSTPIP.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen L. Rawlings, Ph.D. whose telephone number is (703)

305-3008. The examiner can normally be reached on Monday-Friday, 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony C. Caputa, Ph.D. can be reached on (703) 308-3995. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

Stephen L. Rawlings, Ph.D.
Examiner
Art Unit 1642

/ Rawlings
STEPHEN RAWLINGS

slr
September 4, 2003

Notice to Comply	Application No.	Applicant(s)	
	09/068,377	LASKY ET AL.	
	Examiner	Art Unit	
	Stephen L. Rawlings, Ph.D.	1642	

NOTICE TO COMPLY WITH REQUIREMENTS FOR PATENT APPLICATIONS CONTAINING NUCLEOTIDE SEQUENCE AND/OR AMINO ACID SEQUENCE DISCLOSURES

Applicant must file the items indicated below within the time period set the Office action to which the Notice is attached to avoid abandonment under 35 U.S.C. § 133 (extensions of time may be obtained under the provisions of 37 CFR 1.136(a)).

The nucleotide and/or amino acid sequence disclosure contained in this application does not comply with the requirements for such a disclosure as set forth in 37 C.F.R. 1.821 - 1.825 for the following reason(s):

☒ 1. This application clearly fails to comply with the requirements of 37 C.F.R. 1.821-1.825. Applicant's attention is directed to the final rulemaking notice published at 55 FR 18230 (May 1, 1990), and 1114 OG 29 (May 15, 1990). If the effective filing date is on or after July 1, 1998, see the final rulemaking notice published at 63 FR 29620 (June 1, 1998) and 1211 OG 82 (June 23, 1998).

☐ 2. This application does not contain, as a separate part of the disclosure on paper copy, a "Sequence Listing" as required by 37 C.F.R. 1.821(c).

☐ 3. A copy of the "Sequence Listing" in computer readable form has not been submitted as required by 37 C.F.R. 1.821(e).

☐ 4. A copy of the "Sequence Listing" in computer readable form has been submitted. However, the content of the computer readable form does not comply with the requirements of 37 C.F.R. 1.822 and/or 1.823, as indicated on the attached copy of the marked -up "Raw Sequence Listing."

☐ 5. The computer readable form that has been filed with this application has been found to be damaged and/or unreadable as indicated on the attached CRF Diskette Problem Report. A Substitute computer readable form must be submitted as required by 37 C.F.R. 1.825(d).

☐ 6. The paper copy of the "Sequence Listing" is not the same as the computer readable from of the "Sequence Listing" as required by 37 C.F.R. 1.821(e).

☒ 7. Other: Figure 13 discloses amino acid sequences that are not properly identified by sequence identification numbers; Applicants are required to place this application in compliance and, if necessary to do so, submit substitute copies of the sequence listing and the statement, as indicated below.

Applicant Must Provide:

☒ An initial or substitute computer readable form (CRF) copy of the "Sequence Listing".

☒ An initial or substitute paper copy of the "Sequence Listing", as well as an amendment directing its entry into the specification.

☒ A statement that the content of the paper and computer readable copies are the same and, where applicable, include no new matter, as required by 37 C.F.R. 1.821(e) or 1.821(f) or 1.821(g) or 1.825(b) or 1.825(d).

For questions regarding compliance to these requirements, please contact:

For Rules Interpretation, call (703) 308-4216
For CRF Submission Help, call (703) 308-4212
PatentIn Software Program Support
Technical Assistance.....703-287-0200
To Purchase PatentIn Software.....703-306-2600

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